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Viability of the biochar production from different manure wastes in the Amblés Valley (Ávila, Spain)

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In the last years, intensive animal husbandry production has led to a large concentration of animals in small areas. This has resulted in the production of excessive amounts of manures with insufficient nearby land for application. One of this areas is the Amblés Valley located in the centre of Spain, near to Ávila city, with an extension of 167472 ha of which 88.9% is agricultural land. This valley has an important livestock focused on pig, cattle, chicken production which is associated with the generation of more than 200,000 t/year of manure. There are a number of environmental problems associated with these intensive agricultural systems, including N and P pollution of water bodies, methane emissions and odour pollution. These serious environmental threats are called for innovative environmental management approaches. A feasible technology for the management of manures, offering a potential to valorise these wastes, is pyrolysis, which results in the production of biochar. The objective of this work is evaluated the technical and economic feasibility of the production of biochar in Amblés Valley (Spain).